

**Supplemental Figure 1**. Heatmap showed the methylation similarity betwen male Hip OA patients and cancer cell lines. Each row represents a gender eDMC between male and female. The order of rows is the same with Figure 2B. Each column represents a samples including Hip OA, normal Hip, and mutiple cancer cell lines obtained from ENCODE project at https://hgdownload-test.gi.ucsc.edu/goldenPath/hg19/encodeDC-C/wgEncodeHaibMethyl450/supplemental/wgEncodeHaibMethyl450BetaValues.txt. Hierarchical clustering was carried out to show the methylation similarity between Hip OA and

cancer cell lines.